

## INTRODUCTION.

The object of the following experiment was to determine the effect of Potassium and Phosphorus on *Selenothrips rubrocinctus*, when applied in solution to cacao. An attempt was made to decide whether the attractiveness of the cacao to the thrips varied inversely with the amount of Potassium applied or whether it depended on the Potash/Phosphate ratio.

The reasons for supposing that Potash might reduce the attractiveness of cacao to thrips were founded on F.Hardy's observations that trees with a high Nitrogen/Potash ratio in their leaves were subject to thrips attack.

It was noticed at the Cotton Research Station, St. Augustine, that cotton plants grown in a cultural solution low in Potassium were badly attacked by aphides, while similar plants grown in cultural solution containing high Potassium were not attacked.

E.A.Andrews in India showed that tea could be made resistant to the attacks of the mosquito bug (*Helopeltis theivora* - Waterh.) by the direct application of Potassium sulphate in solution to the roots of the plant.

## Literature.

The literature on the relationship between manuring and the incidence of insect attack is very scattered and consists mainly of notes added to reports on manurial trials. In the time available it was useless to try to survey the literature completely. Many of the observations were contradictory and the only major work of any importance seems to be that of E.A.Andrews.

Andrews concluded that the attack of the tea mosquito bug varied inversely with the available Potassium/available Phosphorus ratio in the soil. He was unable to show conclusively that the application of Potash manures decreased the attack, although the direct application of Potassium sulphate in solution to the roots gave very good results. The failure of the

Potash manures was attributed to 'some factor in the soil interfering to prevent the Potash added to the soil remaining available to the plants.' He also found that the application of superphosphate if it had any effect at all tended to increase the attack of the bug.

One or two observations by workers in other fields are worth quoting. W.A.Roach, working on the injection of apple trees, noted that trees absorbing 20 Lbs of urea and 20 Lbs of Potassium phosphate ( $K_2HPO_4$ ) per acre were less infected by apple leaf hopper than uninjected trees. J.A.McDonald, working on cacao at the Torrecilla Estate, Trinidad, attributed the relatively greater yields in 1933 of plots treated with Phosphate to their freedom from thrips attack which was prevalent in that year.